

- Transverse median nervure in front wings interstitial or uniting with the median vein *before* the origin of the basal nervure 6.
5. Hind margin of pronotum arcuate; antennæ rather thick; front tarsi with a comb; claws in ♀ with a tooth beneath, in ♂ cleft; second cubital cell receiving one recurrent nervure, the second recurrent joining the cubitus *beyond* the second transverse cubitus (3) Actenopoda, Ashm., g. n.
(Type A. Rileyi, Ashm., MS.)
6. Front tarsi combed; claws cleft, without or, at most, with only a rudimentary comb 8.
Front tarsi *not* combed; claws with a tooth and combed 7.
7. Pronotum not large, the hind margin obtusely angularly emarginate; second cubital cell triangular (4) Xenaporus, Ashm., g. n.
(Type *Pompilus amoenus*, Klug.)
8. Front wings with two cubital cells; hind margin of the pronotum obtusely angularly emarginate (5) Gonaporus, Ashm., g. nov.
(Type *Pompilus gracilis*, Klug.)
- Front wings with only one cubital cell; hind margin of the pronotum arcuate (6) Aporinus, Ashm., g. nov.
(Kohls gr. 17.)

NEW COCCIDÆ FROM THE ARGENTINE REPUBLIC AND PARAGUAY.

BY T. D. A. COCKERELL, E. LAS VEGAS, N. M.

The Coccidæ herein described were collected by Professor L. Bruner in 1897 and 1898. I examined the collection with more than ordinary interest, as practically nothing was known of the Coccidæ of the Argentine or Paraguay. The flora of the southern part of South America resembles in many respects that of the arid region of North America, and it was therefore not wholly unexpected that this resemblance should extend to the Coccidæ. The collection is too small to show how far such a resemblance may extend, but the species of *Orthezia* and *Lichtensia*, at least, are entirely representative of North American types.

(1.) *Orthezia ultima*, n. sp.—♀. Waxy lamellæ in two dorsal series, with a deep median sulcus, and the usual lateral series; the dark surface of the back is narrowly exposed between the dorsal and lateral series; anterior lamellæ of the dorsal series thick, prolonged over the head, but *not greatly produced nor divergent*; posterior lateral lamellæ narrow and

about equal in length, *not adherent to the ovisac*. Dried ♀ very dark brown, about 1100 μ long and 1200 broad. Ovisac 3 mm. long, fluted above.

Skin densely beset with small spines. Antennæ and legs very dark brown; lighter and redder after boiling. Antennæ 8-jointed, last joint flat on one side, convex on the other, tipped with a spine. Joints measuring in μ : (1.) 60, (2.) 60, (3.) 84, (4.) 45, (5.) 48, (6.) 60, (7.) 57, (8.) 102.

Hab.—Locality uncertain, but probably Ceres, Argentine Republic. On some herbaceous plant (probably Compositæ) with linear leaves. Allied to *O. nigrocincta* from New Mexico.

(2.) *Asterolecanium viridulum*, n. sp.—♀. Scale circular, 2 mm. diameter, yellowish green, with hardly any fringe; ♀ boiled in caustic potash turns madder red; margin with two rows of figure-of-eight glands, those of either row 12–18 μ apart, and one row of simple glands, the latter not different from the scattered glands of the skin. Mouth-parts large, about 120 μ diameter; labium very short, twice as broad as long.

Hab.—Tucuman, July 26, 1897, “on a kind of ironweed.” It is close to *A. pustulans*, and, like it, lives on the stems of the plant, producing cavities. It is a larger scale than *pustulans*, and has not the distinct fringe of that insect.

(3.) *Akermes Bruneri*, n. g., n. sp.—♀. Long. 5½, lat. 6½, alt. 5½ mm.; shape and colour, *Kermes*-like; globular, shiny, smooth, broader than long, very pale ochreous, faintly marbled with a darker tint, and sparsely dotted with raised black points, which are perforated in the centre; two sulci extend upwards from the anal region in the form of a V, and other sulci occur somewhat irregularly; some individuals have a dusky reticulation. Inferior aperture, long and narrow (long. 5, lat. 1½ mm.), broadly margined with piceous.

♀. Boiled in caustic potash turns the liquid a dark yellowish brown; skin with a microscopical polygonal reticulation, after the manner of *Eulecanium*; no legs or antennæ found; in the adult the anal plates are wholly obscured, the anal region being occupied by a large, very thick, dark red-brown chitinous mass, having a coarsely radiate structure; in half-grown specimens the usual two plates are easily seen. The skin presents a number of large round dark chitinous areas, such as Signoret figures for *A. verrucosus*.

Larva of ordinary form, with a row of large figure-of-eight (double) glands on each segment; numerous smaller round glands; no spines except the marginal ones, one on each segment on each side, about 15μ long; no greatly produced caudal tubercles; caudal bristles two, moderately long; anal ring with six long bristles. Antennæ 5-jointed, joint 5 with very long bristles. Joints measuring in μ : (1.) 21, (2.) 15, (3.) 42, (4.) 30, (5.) 42.

Hab.—San Bernardino, Paraguay, Sept. 23, 1897, on spiny plant, probably leguminous.

The genus *Akermes* is closely related to *Lecanium*, but is distinguished by its globular form, round chitinous areas in the skin, microscopical tessellation, and the characters of the larva as described. It has some resemblance to *Cryptes* from Australia, but it is not likely that it has the peculiar male scale of that genus.

One other species is known, *Akermes verrucosus* (*Lecanium verrucosum*, Signoret), which I had erroneously referred to *Saissetia*. This is from Montevideo, and is very much larger than *A. Bruneri*.

(4.) *Lichtensia simillima*, n. sp.—♀. Red-brown, with a narrow white margin, varying to ochreous; ovisac white, firm, texture leathery; ♀ with ovisac about $5\frac{1}{2}$ mm. long, $2\frac{1}{2}$ high.

♀. Margin with strong simple spines, about 25μ long and 30 apart; skin with many tubular glands; labium small and semicircular (as in *L. viburni*); anal plates triangular, about 180μ long, outer sides about equal, upper surface with a long finger-like process passing from near the middle backwards and inwards, the two processes nearly meeting in the middle line.

Middle leg: femur and trochanter about 270μ , tibia 180, tarsus 120; tarsal digitules filiform, 60 long; claw digitules slender, about 24 long. Antennæ 8-jointed, with sometimes a "false joint" in the third; joints measuring in μ : (1.) ?, (2.) 45-48, (3.) 96-105, (4.) 33-39, (5.) 48-51, (6.) 36, (7.) 33, (8.) 51.

Hab.—On some shrubby plant. The label reads, "Scale, General Acha." Closely related to *L. lycii* from New Mexico.

Ceroplastes. (*Wax Scales.*)

The female insects are to be separated by the following tables:—

(a.) External Characters.

Wax of the different individuals confluent, wholly surrounding the branch.....*Bruneri*.

- Wax not thus surrounding branch 1.
1. Waxy scale small, adults less than 5 mm. long, light yellowish...*scutigera*.
Waxy scale larger, over 5 mm. long. 2.
 2. Wax light amber, two lines of white secretion down each side..*Mendozæ*.
Wax creamy white, no line of white secretion down each
side*Bernardensis*.

(b.) Microscopical Characters.

- Strongly chitinous, with well-defined patches of perforations..*Bruneri*.
Less chitinous, without such patches. 1.
1. Small species, under 3 mm. long, with a large, very well defined chitinous caudal patch.*scutigera*.
Larger, with the chitinous caudal area gradually shading into the surrounding areas. 2.
 2. Antennæ 7-jointed, about 190 μ long*Mendozæ*.
Antennæ 8-jointed, about 240 μ long*Bernardensis*.

(5.) *Ceroplastes Bruneri*, n. sp. (T. D. A. & W. P. Ckll.).

♀. Wax cream-colour, surrounding twigs, the whole mass 15 mm. diam., the twig being 7 mm.; dorsal nuclei shining white, sunken in deep depressions; close behind each is a small aperture through which the caudal horn is seen; the waxy mass is conspicuously flecked with snow-white secretion.

♀. Dark red-brown, dorsally almost black, basally lighter and redder; subpyriform, with a truncate base; alt. $5\frac{1}{3}$, long. 4, lat. 5 mm., breadth of base $2\frac{1}{2}$ mm.; dorsum shiny; caudal horn short, placed at top of posterior slope and directed upwards. The horn is placed higher up than in *C. candela*. The insects are not separated by wax, but their adjacent sides show much chalk-white secretion, in vertical bands. Skin (dorsal and lateral surfaces) strongly chitinous throughout, orange-feruginous by transmitted light, anal region a rich dark chestnut; large oval areas (the largest about 240 μ long) full of perforations; at and near the margins the skin is strongly tuberculate, and perforate; antennæ and legs ordinary. Legs measuring in μ : femur + trochanter, about 135; tibia 105 (with a rather long hair 27 μ from the end); tarsus 75; claw 33, slender, nearly straight, with a slight denticle within near the base; tarsal digitules 45 μ long, rather stout.

Hab.—San Bernardino, Paraguay, Sept. 23, 1897. Close to *C. confluens* and *C. utilis*, but especially to the S. African *C. candela*.

(6.) *Ceroplastes scutigera*, n. sp.—♀. Waxy scale about $4\frac{1}{3}$ mm. long, 3 broad, and 2 high; pale ochreous, with a lateral patch of white secretion, but no distinct lines; wax not divided into plates; area around central nucleus not darkened. ♀ denuded of wax, about 2 mm. long, flattish, margin tuberculate, caudal horn short. Skin semitransparent, except anal area, which is occupied by a very large and conspicuous red-brown chitinous patch, which has perfectly-defined margins, and a transverse diameter of about $900\ \mu$; this patch shows a few scattered perforations, and just above the anal plates are a large number of furrows radiating from small perforations; anal plates with their long outer inferior slope strongly convex; margin with very numerous short stout spines; antennæ very pale, only about $300\ \mu$ long, 7-jointed, joints measuring: (1.) 30, (2.) 45, (3.) 60, (4.) 75, (5.) 27, (6.) 24, (7.) 33. Femur + trochanter, 177; tibia, 123; tarsus, $70\ \mu$.

Hab.—Ceres, Argentine Republic, June 30, 1897, on a shrub with small entire oval-lanceolate leaves. This may be compared with: (a.) *C. minutus*, which is closely allied, and has the same well-defined caudal patch; but it also has two chitinous patches on each side, containing perforations, these being quite absent in *scutigera*. (b.) *C. speciosus* has the caudal patch just as in *scutigera*, and lacks the lateral patches of *minutus*; it has spines only near the stigmata (for a distance of about $210\ \mu$ on each side), whereas *scutigera* has them all around; the antennæ of *speciosus* are very short, only about $165\ \mu$ long; externally, *speciosus* is easily distinguished from *scutigera* by its dark reddish wax, with a large whitish dorsal patch. (c.) *C. rotundus* is smaller, with well-defined waxy plates. (d.) *C. purpureus* is much smaller. (e.) *C. Iheringi* looks just like *scutigera* externally, but it has not the caudal patch. (f.) *C. formosus* has bright yellow wax.

(7.) *Ceroplastes novaesi mendozæ*, n. subsp.—Waxy scale about $6\frac{1}{2}$ mm. long, 6 broad, 5 high; pale amber, with a decided ferruginous tint; sides with two white lines more or less defined; wax not divided into plates, strongly nodulose.

♀. Denuded of wax lively ferruginous, convex, about 5 mm. long, 4 broad, $3\frac{1}{2}$ high; dorsum rounded, without prominences; caudal horn short, directed upwards, from hind margin to tip of caudal horn is about $2\frac{1}{2}$ mm. Skin not very strongly chitinized, except around anal area; diameter of mouth-parts about $135\ \mu$; antennæ about 180 – $195\ \mu$ long, joints measuring: (1.) 24, (2.) 33, (3.) 24, (4.) 36, (5.) 18, (6.) 20, (7.) 25;

the suture between 3 and 4 is not very distinct. Legs with femur + trochanter 90; tibia 51; tarsus 50, or rather more.

Hab.—Mendoza, Argentine Republic, Jan. 26, 1898, on pithy stems of some herbaceous plant. This agrees with Hempel's *C. novæsi* in the small legs, with the tibia and tarsus about equal; it also agrees externally, except that the wax of *novæsi* is paler and not so red. It seems best to regard the two as geographical races of one species.

(8.) *Ceroplastes Bernardensis*, n. sp.—Waxy scale about $6\frac{1}{2}$ mm. long, 6 broad, and $5\frac{1}{2}$ high, creamy white, not divided into plates nor marked with white lines; dorsal nucleus white, with no dark area surrounding it. Denuded ♀ lively ferruginous, blackish dorsally; length $4\frac{2}{3}$, breadth 3, height $2\frac{1}{2}$ mm.; dorsum with a longitudinal crest; caudal horn short but large, *directed backwards*.

Anal area with a ferruginous chitinous patch, the edges of which are not well defined; anal plates shaped as in *C. scutigera*; skin with scattered minute perforations; mouth-parts small, about 130 μ diameter.

Femur + trochanter, 135 μ ; tibia 100; tarsus 66.

Antennæ about 240 μ long, 8-jointed; joints measuring: (1.)?, (2.) 42, (3.) 33, (4.) 33, (5.) 39, (6.) 18, (7.) 18, (8.) 30.

Hab.—San Bernardino, Paraguay, Sept. 23, 1897. On twigs of undetermined plant. This agrees externally with the species which Hempel regards as *C. Janeirensis*, but the structure appears to be different. I cannot reconcile Hempel's *Janeirensis* with Signoret's account of that species, and believe it is wrongly identified. The South American species of *Ceroplastes* are so numerous that it is next to impossible to identify them by such descriptions as were given by the older authors; fortunately, these descriptions are few, and the great majority are well described by Mr. Hempel.

C. Amazonicus resembles *Bernardensis*, but on close inspection it is seen that the wax is divided into plates, though the sutures are colourless.

A CANADIAN ANOPLONYX.

BY W. HAGUE HARRINGTON, F. R. S. C., OTTAWA.

Among Hymenoptera which I sent to Provancher in 1885 was a sawfly which he determined as *Nematus malacus*, Nort. As it did not correspond to the description of that species, it was set aside with some undetermined material. While rearranging my Nematidæ, I recently examined the insect to ascertain its generic position, and found that